
Coordinated Call-Back Queuing

The CCBQ feature enables stations at an ESN main to be offered CBQ when network calls are blocked at the serving ESN node. When facilities become available at the ESN node, the call originator at the ESN main is alerted by a callback from the node. This feature requires that the ESN main and associated ESN node be equipped with the Network Signaling feature.

Eligibility

When a telephone at an ESN main originates a network call through an ESN node, the NCOS of the call originator, call type, and whether or not the telephone is allowed access to the Ring Again feature is transmitted to the ESN node. If an authcode is entered at the ESN main prior to dialing a network call, the NCOS associated with the authcode is transmitted to the ESN node. When received by the node, this NCOS is used to determine CCBQ eligibility and is used for the duration of the call, unless further modified by the Authcode Conditionally Last feature.

The CBQ eligibility tests are performed. In addition, a check is made that the incoming trunk group from the ESN main is defined (at the ESN node) to permit CBQ, and that the call type allows CBQ. CCBQ is offered to the user at the ESN main if the eligibility tests are successful. If the tests are unsuccessful, standard call blocking is applied to the call.

As for stations at an ESN node, the call originator at an ESN main can invoke Ring Again upon receipt of ERWT if the originator's NCOS is defined at the ESN main as CBQ(a) eligible.

Offer

The CCBQ offer and acceptance sequences are identical to those for stations at the ESN node (see Call-Back Queuing). The optional recorded announcement and overflow tone are provided by the ESN node. In addition, after the recorded announcement is provided, the ESN node transmits a signal to the ESN main. This signal indicates that the call is in a state which allows Ring Again.

When the call originator at the ESN main activates Ring Again, the ESN main assigns a unique “queue identification” number to the call. This number is transmitted to the ESN node to indicate CCBQ acceptance. At the ESN main, the call is placed in a holding queue. At the ESN node, the call, together with the queue identification number, is placed into the trunk queue. The ESN main to ESN node tie trunk is released.

Callback

When an outgoing trunk is seized by the ESN node for a CCBQ call, slow outpulsing is started to hold the trunk while a callback is made to the call originator at the ESN main. The ESN node seizes an available tie trunk to the ESN main, and transmits the “queue identification” number of the call to the ESN main. The ESN main then initiates a callback to the call originator. Callback presentation to the call originator is as for standard Ring Again (see Call-Back Queuing).

Note: If no tie trunks to the ESN main are idle, the outgoing trunk is released and can be offered to another call. The CCBQ call retains its position in the queue but is not offered another trunk until a tie trunk to the ESN main becomes available.

When the call originator at the ESN main accepts the CCBQ callback, answer supervision is sent from the ESN main to the ESN node. The ESN node completes the call and the digits are outpulsed at a normal rate.

If the call originator is equipped with a 500/2500 telephone and is engaged in a call when the ESN node initiates a CCBQ callback, a signal is transmitted from the ESN main to the ESN node. The ESN node releases the outgoing trunk and places the CCBQ call into a holding queue for 5 minutes. No attempt is made to seize another outgoing trunk for the call until the holding time expires. This process occurs only once.

If the originating telephone is still busy, the CCBQ is cancelled automatically at the ESN node. No indication is given to the call originator of the CCBQ cancellation. To prevent the CCBQ call from remaining indefinitely in the holding queue at the ESN main, the ESN main sets a time limit of 1 hour for CCBQ calls. When this time limit expires, the CCBQ call is cancelled automatically. CCBQ callback to a busy telephone is as for normal Ring Again.

The call originator at the ESN main can cancel the CCBQ call at any time; however, the ESN node is not aware of the cancellation until the CCBQ callback is attempted.

Feature interactions

The CCBQ feature interacts with the following features:

Initialize

If the Main initializes while calls are queued at the node, CCBQ callbacks from the node are not answered because the initialization has cleared the holding queue at the Main. The node treats these calls as callback-no-answer calls and cancels the CCBQ automatically. If the node initializes, CCBQ calls in the trunk queue are lost. The Main cannot detect this situation. To prevent calls from remaining indefinitely in the holding queue at the Main, the Main sets a time limit of 1 hour for CCBQ calls. If a callback from the node is not received within 1 hour, the Main cancels the CCBQ call automatically.

Attendant functions

Attendants at an Main are not offered CCBQ. Attendant barge-in on trunks involved in CCBQ operations results in cancellation of the CCBQ call.

AIOD and ANI

Automatic Identification of Outward Dial (AIOD) and Automatic Number Identification (ANI) facilities can be used to complete CCBQ calls from an ESN node. The outgoing toll call is billed to the access tie trunk rather than the telephone at the ESN main.

Coordinated Call-Back Queuing Against Main

The Coordinated Call-Back Queuing Against Main (CCBQAM) feature enables stations at nodes to be offered CBQ for network calls which are blocked at an Main. When facilities become available at the Main, the call originator at the node is alerted by a callback from the Main. CCBQAM otherwise functions identically to CCBQ at the node.